

AMENDMENTS

In the Claims:

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Currently Amended) A control map for a controller of an electrical machine having a rotor and at least one electrically energisable phase winding, the control map comprising a predetermined advance angle profile representing energisation of the phase winding with respect to angular position of the rotor over a range of rotor speeds, and an angle correction factor to be applied to a predetermined portion of the advance angle profile, wherein the angle correction factor depends on a difference between a measured input power to the machine and a predetermined input power at a predetermined rotor speed.

2. (Original) A control map as claimed in claim 1, in which the advance angle profile includes on-advance angle data for a predetermined range of rotor speeds.

3. (Original) A control map as claimed in claim 2, in which the angle correction factor is applied to the on-advance angle.

4. (Previously Presented) A control map as claimed in claim 1, in which the predetermined profile includes off-advance angle data for a predetermined range of rotor speeds.

5. (Original) A control map as claimed in claim 4, in which the angle correction factor is applied to the off-advance angle.

6. (Canceled).

7. (Currently Amended) A control map as claimed in claim [[6]] 1, 2 or 4, in which the angle correction factor comprises a change in angle required to reduce the discrepancy between the predetermined input power and the measured input power to within predetermined limits.

8. (Previously Presented) A method of controlling an electrical machine having a rotor and at least one electrically energisable phase winding, comprising providing a control map as claimed in claim 1, 2 or 4, to a controller for the electrical machine, storing the control map in a memory in the controller and using the controller to control the electrical machine based on the stored control map.

9. (Currently Amended) A method of generating a control map for a controller of a machine having a rotor and at least one electrically energisable phase winding, the method comprising:

producing a predetermined advance angle profile representing energisation of the phase winding with respect to the angular position of the rotor over a range of rotor speeds;

energising the winding in accordance with the advance angle profile;

measuring input power to the machine; and

producing an angle correction factor to be applied to a predetermined portion of the control map, wherein the angle correction factor depends on a difference between the measured input power and a predetermined input power.

10. (Currently Amended) A method as claimed in claim 9, in which the winding is energised in accordance with the advance angle profile at a predetermined speed, which speed is associated with ~~[[a]] the predetermined input power, the method further comprising measuring the input power and producing the angle correction factor in dependence on a difference between the measured power and the predetermined power.~~

11. (Original) A method as claimed in claim 10, in which the step of producing the angle correction factor includes applying predetermined incremental changes to the advance angle profile, measuring the input power after each incremental change and comparing the measured input power with the predetermined input power.

12. (Original) A method as claimed in claim 10 or 11, in which the angle correction factor comprises the change in angle required to reduce the difference between the measured input power and the predetermined input power to within predetermined limits.

13. (Previously Presented) A method as claimed in claim 9, 10 or 11, further comprising storing the angle correction factor in a memory associated with the controller.

14. (Previously Presented) A method as claimed in claim 9, 10 or 11, further comprising transmitting the angle correction factor to the controller by means of radio frequency signals.

15. (Previously Presented) A method as claimed in claim 9, 10 or 11, in which the input voltage applied to the phase winding is substantially constant.

16. (Currently Amended) A ~~recorded~~ computer readable medium comprising having a computer program stored thereon for controlling a machine in accordance with the method as claimed in claim 9, 10 or 11.

17. (Canceled).

18. (Previously Presented) An electrical machine incorporating a control map as claimed claim 1, 2 or 4.

19. (Original) An electrical machine as claimed in claim 18, in the form of a switched reluctance motor.

20. (Previously Presented) A cleaning appliance incorporating an electrical machine as claimed in claim 18.

21-27. (Canceled).

28. (New) A control map as claimed in claim 1, wherein the angle correction factor is applied to an on-advance angle of the rotor and an off-advance angle of the rotor.

29. (New) A method as claimed in claim 9, further comprising applying the angle correction factor to an on-advance angle of the rotor and an off-advance angle of the rotor.